

Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-09900009-2007**

Application Received: **March 12, 2007**

Plant Identification Number: **03-54-09900009**

Permittee: **Marathon Domestic, LLC**

Facility Name: **Neal Plant**

Mailing Address: **100 Big Sandy River Road, Neal, WV 25530**

Physical Location:	Neal, Wayne County, West Virginia
UTM Coordinates:	360.8 km Easting • 4,247.7 km Northing • Zone 17
Directions:	On the west side of Big Sandy River Road, 0.9 miles south of the junction of Big Sandy River Road with Interstate 64.

Facility Description

Maleic anhydride is produced by catalytic partial oxidation of n-butane. This is accomplished by passing a gas mixture consisting of atmospheric air (approximately 98%) and commercial grade butane (approximately 2 percent) over a proprietary vanadium phosphate catalyst.

SIC:

2865 Chemicals-Allied Products, Cyclic Crudes-Intermediates

Operating scenarios:

- (1) Normal operation of facility with thermal oxidizer as the primary control device.
- (2) Operation without thermal oxidizer. This scenario addresses plant operations in the event the primary control device (thermal oxidizer) is off-line due to maintenance activities or malfunction. When the incinerator is not operational, air emissions from the reactors would include CO and VOCs. The VOC stream consists primarily of methane, ethane, propane, butane, and acrylic acid. The vent stream from the batch refiner would also be directed to the abatement scrubber. This stream consists primarily of xylene.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2006 Actual Emissions
Carbon Monoxide (CO)	598.18	412.5
Nitrogen Oxides (NO _x)	14.03	0.76
Particulate Matter (PM ₁₀)	1.38	0.61
Total Particulate Matter (TSP)	1.38	0.61
Sulfur Dioxide (SO ₂)	9.56	1.77
Volatile Organic Compounds (VOC)	86.05	17.0
<i>PM₁₀ is a component of TSP.</i>		
Hazardous Air Pollutants	Potential Emissions	2006 Actual Emissions
Acrylic Acid	5.54	0.17
Benzene	0.22	0
Maleic Anhydride	7.85	0.34
Xylene	8.79	1.49
Total HAPs	22.73	1.99
<i>HAPs are counted as part of VOCs.</i>		

Title V Program Applicability Basis

This facility has the potential to emit 598 TPY of Carbon Monoxide. Due to this facility's potential to emit over 100 tons per year of a criteria pollutant, Marathon Domestic is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR6	Open burning prohibited.
	45CSR7	Control of Fugitive Particulate Matter
	45CSR10	SO ₂ Monitoring Plan
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Preconstruction permits for sources.
	45CSR14	Permit #R14-0008K

	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	WV Code §22-5-4(15)	Testing
	45CSR§21-39	Air Oxidation process in SOCM
	45CSR30	Operating permit requirement.
	40 C.F.R. Part 60 Appendix F	Quality Assurance Procedures
	40 C.F.R. §60.116b (Subpart Kb)	Volatile Organic Liquid Storage Vessels constructed/modified after July 23, 1984
	40 C.F.R. §§60.482 through 60.488	(Subpart VV) – Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry
	40 C.F.R. §60.615 (Subpart III)	VOC emissions from Synthetic Organic Chemicals Manufacturing Industry Air Oxidation Unit Process
	40 C.F.R. Part 60 (Subpart YYY)	Volatile Organic Compound Emissions From the Synthetic Organic Chemical Manufacturing Industry Wastewater: to be in compliance with all applicable requirements no later than promulgation of the rule
	40 C.F.R. §§61.145, 61.148, 61.150	Asbestos inspection and removal
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only:	45CSR4	No objectionable odors.
	45CSR§21-37	LDAR

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR15, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R14-0008K	May 5, 2006	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

Changes to the September 26, 2002 Title V Permit and Fact Sheet consists of significant modification SM01 and minor modifications MM01, MM02 and MM03 as follows:

- 1) Significant modification SM01 – revised thermal oxidizer malfunction or shutdown procedures.
- 2) Minor modification MM01 – based on Permit R14-0008I – lowering of CO and VOC annual emissions from the plant thermal oxidizer (11E) and abatement scrubber stack (13E). This allowed for an increase in process air capacity without the potential of triggering PSD review.
- 3) Minor modification MM02– based on Permit R14-0008J – name change from Ashland Specialty Chemical Co. to Marathon Domestic, LLC; also revised emission point 1E emission limits and tank throughput limits.
- 4) Minor modification MM03– based on Permit R14-0008K – (1) Increased maleic anhydride production limit to 141 mm lb/yr, (2) increased NOX limits on the thermal oxidizer, (3) removed "trivial" hourly emission limits, (4) added CO CEMS QA/QC, RATA, and CGA program, (5) permitted scrubber D-601 (Emission point 15E), (6) changed CO compliance demonstration to hourly limit based on calendar daily average, (7) provided 72 hour per year maintenance bypass time for each of the permitted vent scrubbers and one vent condenser, (8) deleted requirement to monitor for benzene in raw material butane, (9) changed monthly report to DAQ to as-needed basis, (10) Voluntary reduced maleic anhydride emissions at emission point 15E.
- 5) List of all equipment and air emission sources which are authorized to operate at the facility, but which have no applicable requirements included in the initial Title V Permit Fact Sheet was moved to the Equipment Table of the Title V Permit.

Non-Applicability Determinations

The facility is a synthetic minor for HAPs, therefore it is not subject to MACTs. Determination was done for the following MACTs: 40CFR63 Subparts F, G, H, I, 40CFR63 Subpart EEEE, 40CFR63 Subpart FFFF, 40CFR63 Subpart DDDDD.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date:	June 7, 2007
Ending Date:	July 9, 2007

All written comments should be addressed to the following individual and office:

Natalya Chertkovsky
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

Natalya Chertkovsky
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1220 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

Comments were received from the Company on July 9, 2007. There were no substantial changes from the draft permit besides minor corrections – commas were added to numbers in Requirement 5.1.9. table for separation purposes, in the Emissions Summary Table of the Fact Sheet Actual Emissions rates were corrected based on 2006 CES data.